



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/726,476	12/03/2003	Gabriele Nelles	450117-03372.1	5895
20999	7590	04/12/2006	EXAMINER	
<b>FROMMER LAWRENCE &amp; HAUG</b> 745 FIFTH AVENUE- 10TH FL. NEW YORK, NY 10151				DIAMOND, ALAN D
		ART UNIT		PAPER NUMBER
				1753

DATE MAILED: 04/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/726,476	NELLES ET AL.	
	<b>Examiner</b>	Art Unit	
	Alan Diamond	1753	

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.  
 If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.  
 Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1) Responsive to communication(s) filed on 30 January 2006.  
 2a) This action is **FINAL**.      2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4) Claim(s) 3,4,7,10-17,31 and 63 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 3,4,7,10-17,31 and 63 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
     1. Certified copies of the priority documents have been received.  
     2. Certified copies of the priority documents have been received in Application No. 09/866,199.  
     3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
 \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) <input type="checkbox"/> Notice of References Cited (PTO-892) 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____. 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) 6) <input type="checkbox"/> Other: _____.
---	--

## DETAILED ACTION

### ***Comments***

1. The art rejection using Nakamura and Ono are moot since neither the molten electrolyte salts of Nakamura nor the ionic liquid crystal compounds of Ono are hole transporting agents. Likewise, the polymeric molten salts of Ohno et al are not hole transporting agents.

### ***Double Patenting***

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claims 3, 4, 7, 10-14, and 31 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-19 of U.S. Patent No. 6,700,058. Although the conflicting claims are not identical, they are not patentably distinct from each other because it is the Examiner's position that the hole transporting compounds in claims 1, 3, and 16 of said patent are polymers, have a melting temperature lower than the operation temperature of the photoelectric conversion device they are used in (claims 2 and 8 of said patent), and have a glass

transition temperature. When the mixture is used as in claim 3 of said patent, any one of the two compounds is the dopant for the other compound. Note in claims 3 and 19 of said patent that the semiconductor in the photoelectric conversion device is sensitized with a dye. A photoelectric conversion device clearly renders obvious a solar cell, as in instant claim 31.

4. Claims 15-17 and 63 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-19 of U.S.

Patent No. 6,700,058 in view of Nakamura (U.S. Patent 6,291,763).

It is the Examiner's position that the compounds in claims 1, 3, and 16 of said patent are polymers, have a melting temperature lower than the operation temperature of the photoelectric conversion device they are used in (claims 2 and 8 of said patent), and have a glass transition temperature. Note in claims 3 and 19 of said patent that the semiconductor in the photoelectric conversion device is sensitized with a dye. The claims of said patent teach the limitations of the instant claims, the difference being that the claims of said patent do not specifically teach that the dye is a ruthenium complex or that the semiconductor is porous and made of nanoparticles, such as  $TiO_2$  nanoparticles. However, each of these features is well known and conventional in the art. Nakamura teaches that the semiconductor for its photocell can comprise nanoparticles of  $TiO_2$  (i.e., it is porous) and be sensitized with a dye, such as a ruthenium complex (see col. 5, lines 1-14; col. 7, line 42 through col. 8, line 41; and Example 1 at col. 33). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used a ruthenium complex for the dye in the

claims of said patent, and to have used a semiconductor that is porous and comprises nanoparticles of TiO<sub>2</sub> because such features are well known and conventional in the art, as shown by Nakamura.

***Response to Arguments***

5. Applicant's arguments filed January 30, 2006 have been fully considered but they are not persuasive.

Applicant states that a terminal disclaimer, if warranted, can be supplied to expedite issuance of the case. The Examiner suggests that Applicant file a terminal disclaimer.

***Conclusion***

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alan Diamond whose telephone number is 571-272-

Art Unit: 1753

1338. The examiner can normally be reached on Monday through Friday, 5:30 a.m. to 2:00 p.m. ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen can be reached on 571-272-1342. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Alan Diamond  
Primary Examiner  
Art Unit 1753

Alan Diamond  
April 10, 2006

